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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/669,520

09/24/2003

Masanobu Sato

P/4178-9

4349

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EXAMINER

TADESSE, YEWEBDAR T

ART UNIT

PAPER NUMBER

1734

MAIL DATE

DELIVERY MODE

07/25/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/669,520

Applicant(s)

SATO ET AL.

Examiner

Yewebdar T. Tadesse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,9,47-48, 50-55 and 59-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4, 9, 47-48, 50-55, 59-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03/20/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 4, 9, 47-55 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 9 and 55 are unclear because an apparatus comprising a substrate is claimed. For the purpose of examination "a system" or "a combination of an apparatus and a substrate" is assumed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-116805 in view of JP 2003-60013.

JP'805 discloses (see paragraph 6, Figs 1, 3b and 3d) a system wherein a processing liquid (drug solution with an etching) is supplied to one major surface of a substrate and one major surface is subjected to predetermined substrate processing, comprising: an atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W); and a gas supply unit (gas 11) which supplies an atmosphere gas to a space which is created between the atmosphere blocking member (base 1) and the substrate (W), a rotation means rotating the base with the substrate and wherein the atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W) becomes closer to the substrate with a distance toward a periphery edged of the atmosphere blocking member (see Figs 3b and 3d). Additionally in JP'805 the atmosphere-blocking member becomes closer to the substrate over the entire circumference of the atmosphere-blocking member (see Figs 3a-3d). Furthermore, in JP'805 the radius of the atmosphere blocking member is capable of being smaller than the radius of the substrate as desired depending the size and type of the substrate, see in the embodiment of Fig 3C wherein the support members (attachment components 3) are extended outside of the base (1). JP'805 lacks teaching a system including a

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substrate having a notch at the edge thereof. JP'013 discloses a substrate (W) having a notch (N) supported by a system having wafer support members (pins 51), which are similar to JP'805's attachment components (3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a substrate having a notch at the edge in JP'805 to reliably treat the wafer without damage as taught by JP'013.

6. Claims 4, 9, 47-48, 50-53 and 58-61 rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-116805 in view of Wen (US 6,239,038) and JP 2003-60013.

As to claims 9, 47-48 and 59, JP'805 discloses (see paragraph 6, Figs 1, 3b and 3d) a system wherein a processing liquid (drug solution with an etching) is supplied to one major surface of a substrate and one major surface is subjected to predetermined substrate processing, comprising: an atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W); and a gas supply unit (gas 11) which supplies an atmosphere gas to a space which is created between the atmosphere blocking member (base 1) and the substrate (W), a rotation means rotating the base with the substrate and wherein the atmosphere blocking member (base 1) which is faced with other major surface of the substrate and that is away from the substrate (W) becomes closer to the substrate with a distance toward a periphery edged of the atmosphere blocking member (see Figs 3b and 3d). JP'805 further teaches at least three or more support members (attachment components 3) which are disposed at the periphery edge of the atmosphere-blocking

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member (base 1) abutting on an edge surface of the substrate and supporting the substrate (see paragraph 26 and Figs 1, 3b and 3d). JP'805 lacks teaching a system including a substrate having a notch at the periphery edge of the substrate. In JP'805 the radius of the atmosphere blocking member is capable of being smaller than the radius of the substrate as desired depending the size and type of the substrate, see in the embodiment of Fig 3C wherein the support members (3) have extended outside of the base (1). In any event Wen discloses (see column 4, lines 11-21) adjustable mounting members (fingers 42), one in the art would adjust support members in order to install different sizes of substrate (a substrate having smaller or larger diameter than the diameter of the atmosphere blocking member or base). As such, It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a substrate having larger radius than the radius of the atmosphere blocking member as desired. As to a substrate having a notch at a periphery edge, JP'013 discloses a substrate (W) having a notch (N) supported by a system having wafer support members (pins 51), which are similar to JP'805's attachment components (3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a substrate having a notch at the edge in JP'805 to reliably treat the wafer without damage as taught by JP'013.

As to claim 4, JP'805 discloses a central area of the substrate -facing surface which is faced with an approximately central portion of the substrate is flat surface (see particularly Fig 3d) and a periphery edge area of the substrate-facing surface of the atmosphere blocking member (base 1) which is faced the periphery edge of the

substrate is angled surface which becomes closer to the substrate with a distance toward a periphery edge of the substrate-facing surface.

With respect to claims 50-52, in JP'805 the support member (3) comprises a contact surface in line contact with the edge surface of the substrate, wherein a width of the contact is the same as the width of a portion of the line of contact and the line of contact becomes narrower with a distance away from the substrate (see Figs 2a-2d and 3a-3d).

As to claim 53, JP'805 lacks teaching a transportation unit transporting the substrate to the processing unit. Wen discloses (see fig 7) a transportation unit (transfer units 118,119), which transports substrates to the processing unit. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a transportation unit in JP'805 to move the substrate in and out of the processing unit.

With respect to claims 60-61, JP'805's atmosphere blocking member is capable of preventing a mist from passing from one major surface of the substrate to the other major surface of the substrate.

7. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-116805, Wen (US 6,239,038) and JP 2003-60013 as applied to claim 9 and 10 and further in view of Matsukawa et al (US 5,518,542). JP'805 as modified lacks teaching a reversing unit, which reverses substrate. Matsukawa et al discloses (see Figs 6-7 and Abstract) double-sided substrate cleaning apparatus having a transportation unit

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(conveying mechanism 5) to transfer the substrate from processing unit and reversing unit (reversing mechanism 10) to reverse the substrate. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a reversing unit in JP'805 in case one of the upper or the lower processing fluid supplying means is not working and reversing of the substrate is required.

Response to Arguments

8. Applicant's arguments with respect to have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yewebdar T. Tadesse whose telephone number is (571) 272-1238. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tucker Phillip can be reached on (571) 272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to be 'YTT' followed by a stylized flourish.

YTT